JEFF BINGAMAN

United States Senate

May 15, 2009

The Honorable Daniel Inouye
Chairman
Committee on Appropriations
Subcommittee on Defense
Senate Appropriations Committee
Senate Dirksen Office Building, Room 122
Washington, DC 20510

The Honorable Thad Cochran
Vice Chairman
Committee on Appropriations
Subcommittee on Defense
Senate Appropriations Committee
Senate Dirksen Office Building, Room 122
Washington, DC 20510

Dear Chairman Inouye and Vice-Chairman Cochran:

As the Committee begins its consideration of the Fiscal Year 2010 Defense Appropriations Bill, I am writing to request support for the following programs as attached.

As a larger policy matter, the Fiscal Year 2003 National Defense Authorization Act reformed the Department's Test and Evaluation enterprise. This legislation was based on the premise that the Major Range Test Base Facilities, (MRTBF) should not be charging upkeep or overhead costs to their test customers but that each service with MRTBF responsibility should allocate sufficient resources so that these national assets serve the Department's needs as whole. While the intent of the legislation was correct, the allocation of funding to the services in the 2003 Act to maintain these ranges was inadequate; the result 6 years later is that MRTFBs are experiencing large backlogs of broken test equipment that fail to serve DOD test needs. I ask the committee to allocate additional funding for MRTBF sustainment to make up for this shortfall. For the case of Army test and evaluation my understanding is that it is up to 25 percent underfunded and in danger of having its budget decertified by the Director of the Test Resource Management Service. As you are aware, acquisition reform is a major priority with the Congress, the test and evaluation enterprise is integral to cost effective DOD acquisition.

I certify that neither I nor my immediate family has a pecuniary interest in any of the congressionally directed spending item(s) that I have requested, consistent with the requirements of paragraph 9 of Rule XLIV of the Standing Rules of the Senate. I further certify that I have posted a description of the items requested on my official website, along with the accompanying justification. If you have any questions, contact Dr. Jonathan S. Epstein on my staff at 4-3357.

Sincerely,

Jeff Bingaman
U.S. Senator

ALBUQUERQUE
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FARMINGTON
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Item: Advanced Cost and Risk Model (ACRM)
Request Amount: $3,800,000
Requestor: Advatech Pacific, Inc.
Suggested Location of Performance (major portion of the work): Albuquerque, N.M
Purpose: The software to be developed will provide important life-cycle estimation capability fo current DOD platforms and systems under development.
Why spending is in interest to taxpayers: Advanced Cost and Risk Model is life-cycle cost/risk modeling software that accurately characterizes program cost/risk and allows decision makers to understand the impacts of their mission, CONOPS, and design decisions in the very early phases of the program when knowledge-based decisions yield the highest life-cycle cost savings.

Item: Operational status of AC-130H/U gunships
Request Amount: Report
Suggested Recipient: Congress
Suggested Location of Performance (major portion of the work): Hurlburt Field, Fl.
Purpose/Project Description: Report on the operational status of the fleet of AFSOC AC-130H/U gunships and cost to recapitalize with AC-130J from the current production line.
Why spending is in interest to taxpayers: Congress needs to understand the current wear on AC-130 gunships with the current deployment schedules.

Item: Deployable Joint Command and Control (DJC2) Shelter Upgrade Program
Request Amount: 4.0 million
Requestor: Alaska Structures, 6000 S. Main Street, Las Cruces, NM 88047
Suggested Location of Performance (major portion of the work): Las Cruces, N.M.
Purpose: Funding will replace outdated shelters with systems utilizing a 10-year service.
Why spending is in interest to taxpayers: The DJC2 program equips the combatant commanders with a standardized command and control capability, eliminating the practice of relying on local or ad hoc C2 resources cobbled together at the last minute during a crisis. The shelters allow the warfighters to go farther and faster into the field to complete their C2 missions.

Item: High Energy Conventional Energetics (HECE) Program Phase III
Request: $6M
Requestor: Applied Research Associates, Inc., (ARA)
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: About 10 times TNT detonation energy is required to defeat chem-bio WMD. Currently, the energy of the most powerful explosive barely reaches two to three times that of TNT detonation energy. This program will produce 10 times TNT detonation energy by leveraging thermobaric technology for payloads, developing new weapon casings and producing caustic by-products that are 100+ times more effective in agent kill.
Why spending is in interest to taxpayers: The main benefit to the warfigher is the high potential to provide the nation with the ability to defeat chem-bio WMD with no collateral damage by using conventional weapons rather than the only other alternative means – radiological or nuclear weapons.

Item: RC-26B Modernization/Modification
Request Amount: $9.13 million in FY2010
Requestor: ATK
Purpose: The FY2010 budget request does not contains sufficient funds to conduct a system upgrade of the Air National Guard's (ANG) RC-26B aircraft that are used in support of Department of Defense and Department of Homeland Security / Customs and Border Protection missions.
Why spending is in interest to taxpayers: The RC-26B performs critical intelligence, surveillance and reconnaissance (ISR) missions in support of national disaster response by the Air National Guard (ANG), border protection and immigration control for the Department of Homeland Security (DHS), and deployed special operations forces in support of Special Operations Command (SOCOM). The performance of the RC-26B platform during the aftermath of Hurricane Katrina provided a real-world example of the utility of this multi-mission asset. As the demand for the RC-26B's proven utility increases, non-availability of the platform may prevent ANG crews from performing their Homeland Security support missions.

Item: Civil Air Patrol (CAP) Corp, Operations and Maintenance
Request Amount: $4.4 million
Requestor: Civil Air Patrol
Purpose: CAP's Operations and Maintenance funding has been reduced by $4.4 million in the President's FY10 Defense Department Budget. This request would restore the CAP budget to the minimum baseline needed to conduct community, state and Federal missions.
Why spending is in interest to taxpayers: Restoration of $4.4 million will maintain CAP's readiness by providing the needed resources to support disaster relief, youth leadership, community support, and homeland security. This will impact every state and CAP wing in the nation including New Mexico.

Title: National Consortium for MASINT Research
Request: $15 million
Company: Defense Intelligence Agency
Purpose: integrate basic research and students into the IC
Suggested Location of Performance (major portion of the work): U.S.A. / Albuquerque
Purpose: The NCMR mission is "to push the technology horizon and bring new research concepts and capabilities to the entire technical collections intelligence community". It delivers rigorous peer reviewed research and supports efforts by its chartered members in over 20 states. The NCMR is also a source for new Technical Intelligence Professionals both in and out of government.
Why spending is in interest to taxpayers: By creating the NCMR undergraduate scholars program, juniors and seniors at participating universities are receiving merit/need based scholarships that bear fruit in their collective understanding of needs and interest in future intelligence sector employment. This program plays a critical role in the future of technical intelligence and in our nation's security.

Project Name: Vigilant Sensing System Program (VSSP)
Amount Requested: $6.1M
Requestor: Defense Research Associates
Suggested Location of Performance (major portion of the work): Las Cruces, N.M
Purpose: Defense Research Associates, Inc. requests funding to develop and demonstrate a power line/power harvesting sensor and communications system to demonstrate a critically needed Non-Traditional Intelligence, Surveillance, and Reconnaissance (NT-ISR) system. This system will provide image processing and data transmission capability to support ISR efforts in the Global War on Terror.

Why spending is in interest to taxpayers: As the Global War on Terror (GWOT) continues to escalate, military missions continue to shift toward countering and neutralizing enemy asymmetric forces in the form of snipers, ambushers, and Improvised Explosive Devices (IED). The problem is that existing military tools and technologies were not designed to operate against enemies which hide amongst civilian populations and employ non-conventional weapons and tactics. The significance of this problem is that terrorists armed with simple, even improvised, anti-personnel weapons are able to achieve tactical and political objectives in the face of vastly superior US forces. The broad strategy to counter these asymmetric threats is to use advanced and innovative technologies such as the Vigilant Sensing System (VSS).

Item: Holloman High Speed Test Track
Request Amount: $7.5M
Requestor: General Atomics
Suggested Location of Performance (major portion of the work): Alamogordo, N.M.
Purpose: develop a new generation of high speed impact testing
Why spending is in interest to taxpayers: This system will significantly reduce the cost of testing critical missile and aviation components by allowing for the testing to be conducted in a vibration-free controlled environment.

Item: Advanced Modular Avionics for ORS Use
Request Amount: $4.8 M
Requestor: Goodrich ISR Systems Albuquerque
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: Develop common avionics architecture and a power system for disparate ORS payloads to enable Plug in Play interoperability and mission readiness.
Why spending is in interest to taxpayers: The Advanced Modular Avionics for ORS Use program will enable rapid integration of new technologies and payloads for the Air Force's Operationally Responsive Space (ORS) program thus saving launch time and cost.

Item: Imaging System for Space Situational Awareness
Request Amount: $3.5 M
Requestor: Goodrich Corporation ISR Systems Albuquerque
Suggested Location of Performance (major portion of the work): Albuquerque, N.M
Purpose: Develop the Space Situational Awareness Camera System using Goodrich's advanced, highly accurate pointing and tracking systems along with precision SWIR sensors to detect, identify, and assess objects in orbit threatening U.S. space assets.
Why spending is in interest to taxpayers: Existing U.S. Space Situational Awareness (SSA) capabilities focus on surveillance and assume a fair degree of preexisting information. A catalog of all known objects in orbit, which is maintained by the U.S. Space Command, is updated on a recurring basis, depending on the object's orbit and characteristics. While this system has functioned very well to date, it faces many challenges as the space environment becomes increasingly more complex. Development of the proposed sensor systems would augment this existing system giving the Warfighter new tools by which he can perform these complex space based activities much more efficiently and automously.

Item: Renewable Power for Forward Operating Bases (FOB) - Micro Grid Pilot Demonstration program
Request Amount: $6 million
Requestor: Honeywell Aerospace – Albuquerque, New Mexico
Suggested Location of Performance (major portion of the work): Albuquerque, N.M
Purpose: Honeywell will use the funds requested to deploy and integrate renewable energy sources into a fully functional Micro Grid power demonstration.

Why spending is in interest to taxpayers: Forward deployed commanders are currently dependent on an inefficient point power generation system to run their FOBs. The expeditionary nature of the U.S. military requires a reduced logistics tail in all contingencies. Due to this substantial commitment of logistics resources and significant risk and expense, the Army's newly formed Energy Security Task Force is focused on reducing the Army's dependence on fossil fuels. When integrated with energy demand reduction activities (such as spray foam insulation in temporary structures) the Honeywell Micro Grid project can reduce the energy footprint of a remote site by more than 50 percent. It will also reduce fuel, maintenance and transportation requirements for the warfighter.

Item: Advanced Cost and Risk Model (ACRM)
Request Amount: $3,800,000
Item: Native American Document Conversion Program
Request Amount: $10 Million
Requestor: Intertribal Information Technology Company, LLC (IITC).
Suggested Location of Performance (major portion of the work): Albuquerque, N.M
Purpose: Currently, the US Military Technical Data is available in a plethora of electronic formats or in many instances only in paper. Continuing the integrating of these formats into a single data format is important. Having a single data format would drastically increase efficiency and inter-service communication. The justification of the NADCP can help to reduce the 65% or higher unemployment rates on remote reservations because remoteness is not an economic handicap in IT, as demonstrated by the amount of work that the NADCP has done since 2003.
Why spending is in interest to taxpayers: DCP has created over 300 jobs nationwide in diversified Native communities that have extremely high unemployment rates. The Department of Defense has a need to digitize its technical manuals and other paper documents in order to promote combat readiness, safety and save money. Tribal firms possess the capability to fulfill this need. This project improves the efficiency of the war fighters in the field, promotes military readiness and safety, insures against the loss of valuable research and other information presently maintained in a cumbersome paper format.

Item: NM T&E Alliance
Request Amount: $3.5 Million
Requestors: ITT Advanced Engineering
Suggested Location of Performance (major portion of the work): Albuquerque, N.M
Purpose: This project would establish a test alliance consisting of four major test and evaluation (T&E) centers operating in the State of New Mexico to combine emerging test capabilities and resources into an alliance consortium to offer T&E support for short notice, inexpensive, rapid, near- and mid-term test and evaluation products, services and capabilities.
Why spending is in interest to taxpayers: This project, if approved would provide an affordable, accessible and cost-effective small- and medium-range T&E facility to allow for enhanced T&E opportunities that do not presently exist. This request would bridge gaps between promising technologies, programs and operational end-products, shorten acquisition timelines and inject systems engineering concepts into acquisition programs.

Item: New Mexico Solar Research Center
Request Amount: $1M
Requestor: Kirtland Partnership Committee
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: To conduct laboratory revitalization at Kirtland AFB to house a research copy of AF Weather Agency's new solar telescope. The new instrument will support the Battlespace Environment Division that is being transferred to Kirtland and its New Mexico research partners.
Why spending is in interest to taxpayers: The NM Solar Research Center will support basic and applied research on the Sun & solar wind, and on processes in the upper atmosphere, ionosphere, and magnetosphere that threaten military, civil, and commercial space systems; the results of this research identify/quantify basic physical principles controlling the space environment and apply study results to forecast solar storms and to mitigate environmental effects on space systems

Item: High Power Microwave Narrow Band Threat Systems
Request Amount:$6,000,000
Requestor: Ktech Corp.
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: This request seeks to accelerate the procurement of NBTS under the existing DETEC project to provide the Test and Evaluation community with a necessary tool to establish vulnerability levels and develop countermeasures for the emerging foreign HPM threat.
Why spending is in interest to taxpayers: High power microwave simulators are critical to the defensive system threat analysis of current DOD platform to the HPM htreat; this program will continue the development of such simulators.

Item: Counter-Electronics High Power Microwave Advanced Missile Project (CHAMP)
Request Amount: $6,000,000
Requestor: Ktech Corp.
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: CHAMP will develop and demonstrate a multi-shot/target aerial HPM platform, capable of degrading or damaging electronic systems.
Why spending is in interest to taxpayers:: Combatant commanders need additional military options to defeat high value adversary electronic systems critical to military, industrial, and civil infrastructure. One requirement expressed is to develop a cost effective, low collateral damage weapon system to disable or damage electronic systems. Based on the limitations of conventional force options, a multi-shot, multi-target aerial platform that will disrupt, or damage electronic systems may play a key role in future conflicts

Item: Laser Weapon System -Power Conversion and Integration (LaWS PCI)
Request Amount: $6 million
Requestor: L-3 Communications
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: The fielding of this technology will provide the warfighter with speed-of-light response for point defense and high-value asset protection for land sea and land based service. The eventual product will provide the warfighter with enhanced defensive capability against anti-ship missiles and swarm attack by small surface vessels. The LaWS provides greater range and magazine depth than that of the present CIWS (Close-in Weapon System) system in these roles.
Why spending is in interest to taxpayers: The Navy has a near-term application for the Laser Weapon System (LaWS) for ground and sea-based use to repel airborne threats such as cruise missiles. Requested funds will serve a complimentary function to ongoing Naval research with High Energy Lasers. Necessary to the deployment of any Laser Weapon System is the development of a compact power supply system as well as the overall systems integration of the weapon's components including the actual laser and the guidance system. FY10 funding will fund the power supply and systems integration function.

Item: Biothreat Countermeasure Facility Enhancement, Lovelace Respiratory Research Institute, Albuquerque, NM
Request Amount: $5 Million
Requestor: Lovelace Respiratory Research Institute
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: As one of only two domestic facilities with the capability to conduct aerosol studies on non-human primates (NHPs) under U.S. Food and Drug Administration (FDA) mandated Good Laboratory Practice (GLP) requirements, LRRI has the ability to undertake testing of countermeasures against biological threat. This capability is required for FDA approval of any vaccine or other antimicrobial agent for use in people and vaccine development is critical to our readiness to defend against a biological attack or natural threat from an emerging infectious agent.
Why spending is in interest to taxpayers:: The Nation faces a grave and ongoing threat from terrorist attacks that involve biological weapons, as well as a threat of naturally occurring pandemics. The research that LRRI will conduct helps prepare medical responses to those critical threats. New Mexico is home to one of the nation's largest concentrations of defense-related research and this project will build on and expand the existing expertise of the region's defense-research assets.

Item: Embedded Instrumentation for Army Vehicle Diagnostics and Prognostics
Amount Requested: $2M
Requestor: Management Sciences, Inc.
Suggested Location of Performance (major portion of the work): Albuquerque, N.M
Purpose: This effort will fund low rate initial production (LRIP) with qualification testing and certification; and ramp production of approximately 1,000 Sentient Connector kits. The kits would be made for rapid insertion into Army Stryker tactical vehicles. Based on success in saving lives and vehicles, follow on funding will produce Sentient Wiring kits for Abrams, Bradley, MRAP, HMMT (heavy support vehicles), HWWMV and other vehicles
Why spending is in interest to taxpayers: Sentient kits will protect troops by performing real time in-situ diagnostics and prognostics of the health state of mission critical systems such as weapons, fuel, communications and power train. The kits issue accurate alerts to pre-empt dispatch of a seriously degraded vehicle which would likely result in a disabling "roadside" failure during a mission.

Item: Tactical AirSentinel
Amount Requested: $3.9M
Requestor: ICx Mesosystems
Suggested Location of Performance (major portion of the work): Albuquerque, N.M
Purpose: Develops a mobile, deployable, lightweight, low power biological detector to detect releases of a variety of biological materials including anthrax, tularemia, viruses and toxins, giving field operating forces adequate sensors to detect a biological release in time to take preventative and mediating countermeasures.
Why spending is in interest to taxpayers: Tactical AirSentinel is rooted in proven technology developed with assistance from DARPA and DTRA. The Marine Corp contract included unfunded options in the contract to "harden" the design for use in the battlefield and implement quality plans associated with high-volume production of reagent cartridges. This plus-up will provide funding for the contact options.

Item: SkyPure – Water from Air
Amount Requested: $2.6M
Requestor: ICx Mesosystems
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: Develops a method to harvest drinking water from humidity in the air using waste heat from vehicle engines and electrical power generators.
Why spending is in interest to taxpayers: Getting potable water to deployed troops in Iraq and Afghanistan is a challenging and costly logistics problem. Having the capability to extract water from thin air will substantially reduce the logistical burden of providing potable water to deployed forces and can push drinking water generation to where it is needed most in military responses to natural disasters like the tsunami relief efforts in Indonesia.

Item: Deformable Mirrors
Request Amount: $2 Million
Requestor: MZA Associates Corporation and Active Optical Systems, LLC (Subsidiary of MZA)
Suggested Location of Performance (major portion of the work): Albuquerque, N.M
Purpose: This program would upgrade existing Deformable Mirrors (DM's) to determine whether new DM's can be built with hundreds of actuators in spaces of approximately 5 milimeters (mm) to take High Power in both Solid State Resonater and Beam Control Applications. This would allow for a diversified industrial base for DM manufacturing while improving the product for high power high energy laser applications.
Why spending is in interest to taxpayers: This request, if approved, would diversify the existing industrial supplier base for deformable mirrors, while allowing for upgrades to existing capabilities to allow for improved and enhanced performance in the high power/high energy laser applications to meet military requirements for high energy laser acquisition programs.

Item: New Mexico National Guard Counterdrug Support Program
Request: $6,000,000
Requestor: New Mexico National Guard
Suggested Location of Performance (major portion of the work): Mexican Border with N.M.
Purpose: Prevent drug trafficking across the New Mexico-Mexico border
Why spending is in interest to taxpayers: This year's budget request will have a significant impact on the Guard's ability to support counterdrug activities conducted by U.S. Customs and Border Protection, the Drug Enforcement Agency, the Federal Bureau of Investigation, local law enforcement, and HIDTA Task Forces.

Item: Algal Biofuels for Aviation
Request Amount: $4,000,000
Requestor: New Mexico State University, Las Cruces, NM
Suggested Location of Performance (major portion of the work): Las Cruces, N.M
Purpose: DoD spends almost 2.5-3% of national defense budget on fuels, and more of 60% of the fuels are used for aviation. The current fossil fuel based economy is not sustainable because of environmental impacts, economic dependence, and energy security issues. The need to find an alternative energy for power generation and transportation, especially for aviation pushes the interest in producing biofuels from algal biomass to the forefront.
Why spending is in interest to taxpayers:: This project will develop algal biofuels for aviation and optimize gas turbine design for these algal biofuels. This project aims at (1) algal biomass production, conversion to aviation fuel, electricity, and other valuable by-products, (2) making design adjustments and improvements in a gas turbine (for power generation and aviation), (3) enabling transformational technology for the industry sectors of military and civilian aviation.

Item: Center of Excellence for Geospatial Science at New Mexico State University
Request Amount: $1,000,000
Suggested Location of Performance (major portion of the work): Las Cruces, N.M
Purpose: Continue work of Center of Excellence for Geospatial Science; which will develop the workforce National Geospatial-Intelligence Agency (NGA) and other agencies in the Intelligence Community and Geospatial Training/Education for Intelligence Analysts in support of war fighters
Why spending is in interest to taxpayers: NGA provides intelligence analysis, maps, remote sensing of war zones, and geospatial analysis of Human Terrains for war fighters in Iraq, Afghanistan, and other locations. The Department of Geography, Department of Surveying Engineering, and Physical Science Laboratory (PSL) at NMSU are conducting this work. Continuing funding is requested to support NGA's workforce development goals in geospatial analysis and Intelligence studies. The project will deliver education, training, equipment, and student scholarships for those seeking careers with DoD, NGA, and in the Intelligence Community.

Item: Inland Water Quality and Desalination Program
Request Amount:$9,000,000
Requestor: New Mexico State University, Las Cruces, NM
Suggested Location of Performance (major portion of the work): Las Cruces, N.M
Purpose: The Institute for Energy and the Environment (IEE) and Water Resource Research Institute (WRRI) at New Mexico State University, one of the top ten minority serving institutions, are one of foremost authorities partnering with public and private entities, national laboratories, and governmental agencies. Through work with BOR, ONR, GE, and others, facilities such as the Brackish Groundwater National Desalination Research Facility (BGNDRF) is poised to become a national center of excellence under this partnership.
Why spending is in interest to taxpayers:: The Institute for Energy and the Environment (IEE) and the New Mexico Water Resources Research Institute (WRRI) will manage and operate the Tularosa Basin National Inland Research and Testing Facility in Alamogordo. IEE/WRRI in partnership with General Electric (GE) and others will conduct applied research in technological issues related to inland desalination. The focus of the partnership will be on developing affordable and deployable technologies for sustainable water resources.

Item: New Mexico State University Adaptive Threat Lab for Improvised Explosive Devices (IED) Countermeasures Equipment (ICE)
Request Amount: $5.0 Million
Requestor: New Mexico State University / Physical Science Laboratory
Suggested Location of Performance (major portion of the work): Las Cruces, N.M
Purpose: The purpose of the Adaptive Threat Lab for Improvised Explosive Devices Countermeasure Equipment is to continue research and development of IED-defeat systems, identify various manned and unmanned ground and airborne systems for deployment of these systems, and to develop an integrated sensor system for IED detection and defeat

Why spending is in interest to taxpayers:: A new threat emerged during Operation Iraqi Freedom that has taken very low technology devices and coupled them with large munitions, which has resulted in the one of the deadliest weapons against our troops. NMSU/PSL developed a device that can counter these emerging and adaptable threats and provide the technology to counter these IED threats. The goal of this academic, government, industry team is to field these miniature units on alternative manned and unmanned vehicles, both ground and airborne, to serve both as countermeasures and possibly detect systems. Further, the Army must be able to dynamically adapt to new and unexpected challenges on the battlefield. The ICE system can provide this flexibility.

Item: Heavy Metals Total Life-Cycle Initiative
Request Amount: $5,000,000
Requestor: New Mexico State University, Las Cruces, NM
Suggested Location of Performance (major portion of the work): Las Cruces, N.M
Purpose: This task will investigate environmental, health and economical issues associated with testing and deploying heavy metal munitions and produce a comprehensive analysis of associated environmental and health risks and production and reclamation expenditures resulting in an optimum program for the development of new military ammunition.
Why spending is in interest to taxpayers: This project will address environmental and economical issues associated with testing and deploying ammunition made from heavy metals such as depleted uranium, tungsten, beryllium, and lead; and produce a comprehensive analysis of expenditures including associated environmental and health risks and production and reclamation expenditures.

Item: New Mexico State University UAV Systems and Operations Validation Program
Request Amount: $2.9 million
Requestor: New Mexico State University / Physical Science Laboratory
Suggested Location of Performance (major portion of the work): Las Cruces, N.M.
Purpose: The USOVP will allow military, other Federal, and industry users near immediate access to NAS operations. This program is now critical to supporting the development of the regulatory base for UAS, which currently does not exist.
Why spending is in interest to taxpayers: This project addresses a major shortfall of the existing DoD knowledge base, which is expertise and technology focused on small to mid sized UAVs. The recent proliferation of small to medium UAVs within the various DoD services and commands emphasizes the need for systematic and consistent data sets to support decision makers.

Item: Item: Computational Analysis of Cyber-Terrorism against the U.S. (CACTUS)
Request Amount: $5 Million
Requestor: New Mexico Tech University
Suggested Location of Performance (major portion of the work): Socorro, N.M
Purpose: This initiative develops a critically important and unique capability by building a multi-agent system and associated training material, thereby allowing for sophisticated collection, processing and analysis for advanced cyber-terrorism and cyber-crime assessment by the Defense Department for the benefit of several agencies
Why spending is in interest to taxpayers: In response to the increasing threat of cyber-terrorism, cyber-crimes, and the widespread use of advanced digital tools by terrorists and criminals, the New Mexico Institute of Mining and Technology (New Mexico Tech), New Mexico State University (NMSU), and the Naval Postgraduate School (NPS) proposed to combine their expertise in information assurance (IA), complex systems analysis (CSA), vulnerability assessment, and natural language processing (NLP) to develop a distributed, multi-agent system for real-time analysis and monitoring of selected foreign language websites.

Item: Technical Evaluation and Feasibility Study for the Concept of Accelerator-Based Neutron
Request Amount: $3 Million
Requestor: New Mexico Tech University, Socorro, NM
Suggested Location of Performance (major portion of the work): Socorro, N.M
Purpose: Project Description: Will allow completion of a study began with funding provided during FY 2006 to complete the Army's requirement for a technical study related to the production of neutron radiation environments. The purpose of the study is to determine the technical feasibility of producing a neutron radiation environment using accelerator technology.
Why spending is in interest to taxpayers: if successful material testing will be accomplished for military system to radiation with the use of highly enriched uranium – a proliferation concern.

Item: Playas Training and Research Center National Guard Joint Training Experiment
Request Amount: $8 Million
Requestor:New Mexico Tech University
Suggested Location of Performance (major portion of the work): Playas, N.M
Purpose: Playas offers the unique opportunity for National Guard personnel to train in a joint, multi-jurisdictional urban environment with elements of federal, state, and local communities included in any given exercise.
Project Description: The New Mexico Institute of Mining and Technology (New Mexico Tech) acquired the town of Playas, NM, in October 2004 and has converted the town into the Playas Training and Research Center (PTRC). The funding requested herein will be used to establish the PTRC as a Joint National Training and Experimentation Site for National Guard Bureau (NGB) active and reserve personnel, as well as for Air National Guard and Army National Guard personnel.

Item: Mobile Command, Control and Communications (MC3) Shelter
Request Amount: $3 Million
Requestor: New Mexico Tech University
Suggested Location of Performance (major portion of the work): Socorro, N.M
Purpose: The MC3 will be housed in two transportable shelters supported by a mobile to supply power at remote sites. One shelter will have expandable side walls and will serve as a Command Center. The other shelter will be a Technical Support Center and will house workstations, communications equipment, internet servers, and Unmanned Aerial Vehicle (UAV) control gear, plus a wireless internet link, a cell phone repeater, and a satellite link. The standard configuration of the MC3 will relay video, voice, and other data via satellite back to the PTRC Command Center where this same data can be interfaced via internet to other sites of interest elsewhere in the nation.
Why spending is in interest to taxpayers: The New Mexico Institute of Mining and Technology (New Mexico Tech), Socorro, NM, acquired the town of Playas, NM, in October 2004 and has converted the town into the Playas Training and Research Center (PTRC). A critical element of the conversion process has been the development of a comprehensive Command and Control (C2) system that is instrumented to cover the Playas townsite and the immediate surrounding area, as well as to interface near real-time data to outside sites, e.g., US Army White Sands Missile Range Inter-Range Command Center and the Joint Forces Command (JFCOM) facilities in Virginia.

Item:Smart Instrument Development for the Magdalena Ridge Observatory (MRO)
Request Amount: $9 Million
Requestor: New Mexico Tech University
Suggested Location of Performance (major portion of the work): Las Cruces, N.M.
Purpose: The observatory is anticipated to serve as a test bed for numerous astronomical and DoD projects, making it a natural location to take advantage of compact smart instruments.
Why spending is in interest to taxpayers: This MRO is in support of the existing MRO mission and will enhance the capabilities of the observatory, particularly in the area of Space Situational Awareness (SSA).

Item: High Energy Laser System Test Facility- HELSTF
Request Amount: $6.0M.
Requestor: Northrop Grumman Corporation
Suggested Location of Performance (major portion of the work): White Sands, N.M.
Purpose: Add $6 million to the President's FY10 budget request to sustain the unique national capability to conduct high energy laser tests against airborne targets.
Why spending is in interest to taxpayers: This request will add the transition of the High Energy Laser System Test Facility to solid state lasers.

Item: GeoINT Data Access Prototype (GDAP)
Request Amount: $2 million
Requestor: RadiantBlue Technologies,
Suggested Location of Performance (major portion of the work): Las Cruces, N.M
Purpose: The GDAP will leverage existing high bandwidth network at the GIAT facility infrastructure. The system and processes developed will provide an operational foundation to use and incorporate the prototype's novel features within programs of record.
Why spending is in interest to taxpayers: GDAP will provide networked access to data stores on both classified and unclassified networks for pilot program's data users and its off-site development staff. The GDAP will leverage existing high bandwidth network and the NGA Geospatial Intelligence Advancement Testbed (GIAT) facility infrastructure at the primary development site. This prototyping effort will provide immediate benefits to warfighters via their existing tools and networks by making more data available to them faster and in standardized formats.

Item: TOW LBS RDT&E
Request Amount: $5.0M
Requestor: Raytheon Company
Suggested Location of Performance (major portion of the work): Farmington, N.M.
Purpose: While TOW missile lethality has evolved over the years to respond to threat armor improvements, little has been done to improve missile performance. Requested funding will allow maturation of technologies to modernize the missile consistent with emerging requirements.
Why spending is in interest to taxpayers: The United States has more than 6000 TOW launchers in inventory with about 600 TOW missiles in each Infantry Brigade Combat Team. Incremental improvements of TOW are critical if the system is to keep ahead of threats and exceed the capabilities of foreign systems. In particular, the Army seeks reduced time of flight, increased range and insensitive munitions compliances, all of which are addressed by the TOW LBS initiative.

Item: **Cyber-CAST** – Consequence Assessment Simulation Tool
Request Amount: $3.0M
Requestor: Referentia Systems Inc.
Suggested Location of Performance (major portion of the work): Santa Fe, N.M.
Purpose: Develop "new" simulation capabilities for Cyber consequence assessment supporting planning and operational courses of action enabling Combatant Commanders (COCOMS) to choose the optimal mitigation strategies to counter emerging and anticipated cyber threats.
Why spending is in interest to taxpayers: The goal of the program is to provide decision-support resources to transform our currently reactive response to cyber threats to a predictive planning and response - resulting in better protection, continued operations under attack and more efficient use of funding. These are game-changing resources that benefit all aspects of the Nation, public and private.

Item: Safe Zone Systems
Request Amount: $2,000,000.00
Requestor: Safe Zone Systems
Suggested Location of Performance (major portion of the work): Albuquerque, N.M
Purpose: Extensive use of this Stand-off detection system to detect explosives on persons (suicide bombers) would save the lives of our troops and innocent people. The manufacture and maintenance of thousands of units would create about 50 jobs.
Why spending is in interest to taxpayers: The Safe Zone System is a low power radar which will save lives by providing early warning to our troops at guard posts and checkpoints of the approach of terrorists wearing explosives so that appropriate defensive actions can be taken at a safe distance.

Item: Electromagnetic Detection and Imaging Transceiver (EDIT) Technology for Irregular Warfare: Counter-Tunnel Operations and Cache Detection Program

Request Amount: $4,050,000

Suggested Location of Performance (major portion of the work): Raton, N.M.
Purpose: An innovative method to suppress the primary electromagnetic wave allows a deeper detection range to be achieved with the Electromagnetic Detection and Imaging Transceiver (EDIT) technology that has been proven successful in detecting and confirming the existence of metallic and non-metallic landmines and unexploded ordnance at much shallower depths.
Why spending is in interest to taxpayers: Modern (i.e., irregular) warfare requires technology that can detect tunnels and caches being used by insurgents for various purposes. Adversaries are regularly negating U.S. conventional warfare strengths through the use of unconventional means. Better tools and methods are needed to fight the enemy on his turf and for urban clearance, that is, tunnels and caches that are used for sanctuary (i.e., safe-havens and operations) and enterprise (i.e., logistics and storage) purposes.

Item: High Energy Density Capacitors for Military Applications
Request Amount: $6,000,000 for FY 10
Requestor: TPL Inc.
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: There is military transformation underway that will result in a tremendous increase in the use of electrical energy. The most effective way of accomplishing these requirements is through the use of high energy density (HED) capacitors; devices that operate at high voltages: store energy with high volumetric efficiency; and deliver the stored energy with minimal losses. Such a demand will radically transform the limited industry that manufactures high energy density capacitors.
Why spending is in interest to taxpayers:: The proposed program will provide ongoing funds for an engineering development program for this new generation of capacitors, specifically in support of DOD's EM gun programs.

Item: Partnerships for Emerging Energy Technologies, (PEET)
Request Amount: $3 million
Requestor: University of New Mexico
Purpose: The Partnerships for Emerging Energy Technologies (PEET) is a nexus for researchers from engineering and bioscience disciplines that will take a systems approach to integrating macromolecular and nanomaterials technologies into microreactor systems to produce high-volume, high efficiency bio-derived fuels and related energy conversion systems.
Why spending is in interest to taxpayers: Building upon the mission of the Partnership for Emerging Energy Technologies 5PEET6 which supports interdisciplinary research in energy science and engineering at UNM, PEET will bring together New Mexico institutions to provide economic growth and workforce development in energy technology.

Item: Liquid Engine Low-Toxic Propellant (LELP)
Request Amount: $2.5 million
Requestor: University of New Mexico
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: Advanced development of AF-M315E propellant would be accomplished by research experts at the University of New Mexico in collaboration with researchers at Aerojet's Redmond, Washington facility. Combining the expertise of the aerospace engineering and chemical analysis programs within the New Mexico university system with Aerojet's Redmond engineers will broaden and enhance this effort at a reduced cost. This partnership also builds in future workforce capabilities by providing students with real-life research efforts.
Why spending is in interest to taxpayers: The Air Force and Aerojet have been funding the development of AF-M315E for several years, making significant progress with prototype hardware that could have application in various satellite and weapons systems. AF-M315E has the potential to provide greater performance than hydrazine with a significant reduction in required infrastructure, handling, transportation and operational costs. However, the propellant is not fully characterized at this point, and additional funding is required to complete that step before specific system applications can be decided upon. The requested funding and partnering with the academic community would allow for this focused propellant characterization and the development of AF-M315E application hardware.

Item: New Mexico Space Environment Research Clusters
Request Amount: $1.2M
Requestors: University of New Mexico, New Mexico State University, New Mexico Institute of Mining & Technology
Purpose: To establish research clusters at three NM universities to provide research capability for and a steady flow of qualified job candidates to the Air Force Research Lab Battlespace Environment Division that is being transferred to Kirtland AFB, NM in 2011.
Why spending is in interest to taxpayers:: The Battlespace Environment Division is the premier DoD unit for measuring, forecasting, and determining the impacts of the space environment on current and future generations of space systems. This project will help replace the more than 100 scientists and engineers the Division is expected to lose during the BRAC directed transfer.

Item: University Strategic Partnerships
Request Amount: $5 million
Requestor: University New Mexico
Suggested Location of Performance (major portion of the work): Albuquerque, N.M.
Purpose: New areas of interest at DTRA include multiple projects in biotechnology, nanotechnology, materials science, information sciences, infectious diseases, surveillance, medical sciences, and the modeling and understanding of group behavior. In addition, current projects would move on to a phase two funding with DTRA internal divisions sharing costs. Current projects, as noted above, involve social and physical sciences, engineering, and medical and veterinary sciences.
Why spending is in interest to taxpayers: The program seeds projects at universities in cooperation with divisions throughout DTRA to inject basic sciences into applied military R&D for enhanced innovation.

Item: Phase II, Regional Partnership – Ft. Bliss, WSMR, Holloman
Request Amount: $4.7M
Requestor: White Sands Missile Range
Suggested Location of Performance (major portion of the work): White Sands, N.M.
Purpose: To develop Phase II of the Regional Partnership which is Common Regional Operational Systems to enable efficient and effective mission scheduling and real-time monitoring of all testing and training missions at Fort Bliss, TX; White Sands Missile Range, NM; and Holloman AFB, NM.
Why spending is in interest to taxpayers: This request will de-conflict test and training at White Sand Missile Range.

Item: Define Renewable Energy Sources for Base Energy Independence
Request Amount:$ 2M
Requestor: White Sands Missile Range
Suggested Location of Performance (major portion of the work): White Sands, N.M.
Purpose: To develop plans for the environmental, site, and other assessments needed to pursue alternative energy generation and storage options at White Sands Missile Range. Energy sources for study include: solar, nuclear, geothermal, green fuel (algae)..
Why spending is in interest to taxpayers: This project supports National Command Authority (NCA) objectives of enhancing renewable energy development and achieving energy independence as well as DoD's objective of deploying renewable and alternative energy sources.

Item: Five Year Road Map for the High Energy Laser Joint Technology Office
Request: Report Language
Suggested Recipient: Congress
Suggested Location of Performance (major portion of the work): Albuquerque, NM
Purpose/Project Description: develop a 5 year roadmap on high energy laser technologies.
Why spending is in interest to taxpayers: synchronizes current R&D activities in high energy laser research across the DOD.